

Implantable cardiac monitors to detect atrial fibrillation after cryptogenic stroke: a systematic review and economic evaluation

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Plain English summary

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An abnormal heart rhythm (atrial fibrillation) is an important cause of stroke. Clots form in the heart, break off, pass into blood vessels in the head and block the blood supply to parts of the brain. This is important to diagnose because atrial fibrillation can be treated with blood-thinning drugs, which can prevent further stroke. For this reason, all patients with stroke are tested for atrial fibrillation. Unfortunately, the standard tests, which include 24 hours of outpatient external heart monitoring, may miss the condition.

Implantable cardiac monitors, which are small devices placed beneath the skin of the chest that can monitor the heart for up to 4 years, may be better than the standard tests.

This study compared three different implantable cardiac monitors [BioMonitor 2-AF™ (Biotronik SE & Co. KG, Berlin, Germany), Confirm Rx™ (Abbott Laboratories, Lake Bluff, IL, USA) and Reveal LINQ™ (Medtronic plc, Minneapolis, MN, USA)] to determine how effective they are at detecting atrial fibrillation in people who have had a cryptogenic stroke (a stroke for which no cause is identified), whether or not they are better than standard monitoring and whether or not they offer good value for money.

No evidence was found that directly compared the three implantable monitors in cryptogenic stroke patients. The limited evidence found suggested that all three monitors had few side effects; only one monitor (Reveal LINQ) had evidence that it was better than standard monitoring. By 36 months, 19% of patients had atrial fibrillation detected by Reveal LINQ compared with only 2.3% with conventional monitoring. There was insufficient information for the other monitors.

Overall, implantable monitors offer value for money when compared with standard monitoring for people who have had a cryptogenic stroke and for whom atrial fibrillation has not been detected with standard tests.

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This report

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